



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

**RBE350A93-3307-00**  
**Job Sheet 181033**



Part No: RBE350A93-3307-00

Job Qty: 5 ea

DAS  
21  
9-89

Part Name: Tail Gearbox Seal Extractor



Part Weight: 0 lbs

Status: At Planning

Priority: Medium

Job Created: 7/19/18

Job Tracking No:

Due Date: 7/30/18

Created By: Logan David

Type: SOLD

Description:

Note: DWG RBE350A93-3307-00 Rev 2A IPP Rev A 18.01.24 New issue DP verify DD

Ship Via:

### Bill of Materials

### Job Routing

| Op No | Operation          | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off   |
|-------|--------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|------------|
|       |                    |       |            |          | Setup hrs | Run Hrs | Workcenter / Supplier | Lead Time |            |
| 90    | Start up Operation | 5 Ea  | 7/30/18    | 7/30/18  | 0.00      | 0.00    | Start Up Small Fab-4  |           | MLC        |
| 100   | Small Fab          | 5 pcs | 7/30/18    | 7/30/18  | 0.00      | 0.50    | Small Fab-9           |           | MLC DAS 38 |
| 110   | QC                 | 5 pcs | 7/30/18    | 7/30/18  | 0.00      | 0.00    | QC5                   |           | MLC 9-89   |
| 130   | Packaging          | 5 pcs | 7/30/18    | 7/30/18  | 0.00      | 0.00    | Packaging3-2          |           | MLC 21     |
| 140   | QC21-FG            | 5 Ea  | 7/30/18    | 7/30/18  | 0.00      | 0.00    | QC21                  |           | 21 9-89    |

Part Op 100 - 1-Assemble as per DWG. \*\*\*NOTE\*\*\*see deviation attached.  
Descriptions: 130 - Identify and Stock

21 9-89 AUG 20 2018

### Job BOM

| Part / Item          | Component Name      | Quantity     | Operation             | Container |
|----------------------|---------------------|--------------|-----------------------|-----------|
| 91253A540            | Head Head Cap Screw | 5 pcs (1 ea) | 90-Start up Operation | 3057169   |
| RBE350A93-3307-00-01 | Retractor           | 5 Ea (1 ea)  | 90-Start up Operation | 3080010   |
| RBE350A93-3307-00-03 | Washer              | 5 Ea (1 ea)  | 90-Start up Operation | 3076658   |
| RBE350A93-3307-00-05 | Hex Head Cap Screw  | 5 Ea (1 ea)  | 90-Start up Operation | 3102456   |

### Job Allocations

| Operation             | Component Part       | Required | Inventory | Allocated |
|-----------------------|----------------------|----------|-----------|-----------|
| 90-Start up Operation | 91253A540            | 5        | 49        | 0         |
|                       | RBE350A93-3307-00-01 | 5        | 11        | 0         |
|                       | RBE350A93-3307-00-03 | 5        | 29        | 0         |
|                       | RBE350A93-3307-00-05 | 5        | 5         | 0         |

### Part Specifications

Specifications could not be found.

Plex 7/19/18 3:50 PM dart.logan.david



Container No: S103018



Part: RBE350A93-3307-00

Job No: 181033

Serial No/Batch: S103018

Revision: 2A

Inspector:

Exp Date:

Instructions:

DART Aerospace Inc.  
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CANADA  
TEL: 1 613 632-5200  
Email: sales@dartaero.com  
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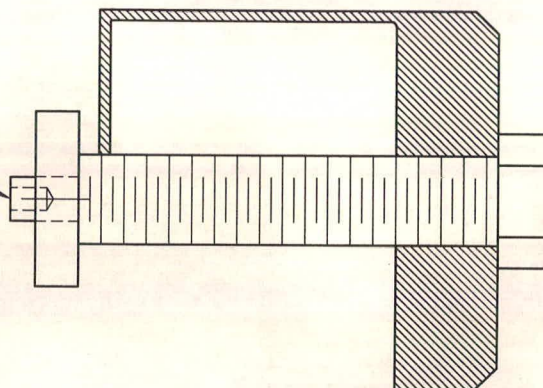
Date: 08/16/18



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| REVISIONS |                                                                                                                                  |          |         |          |
|-----------|----------------------------------------------------------------------------------------------------------------------------------|----------|---------|----------|
| REV       | DESCRIPTION                                                                                                                      | DATE     | INITIAL | APPROVED |
| 1         | DESIGNED PER HELI PRODUCTS TOOLS.                                                                                                | 9/28/09  | WP      | DW       |
| 2         | CH'D WASHER TO P/N -03 & S.F. TO 5, CH'D ALL THREAD TO HEX HEAD CAP SCREW<br>P/N -05 & S.F. TO 3 PER D.W., DELETED -03 WELDMENT. | 11/17/09 | RJC     | RW       |
| 2A        | CORRECTED T/N WAS RBEA93-3307-00 IS RBE350A93-3307-00.                                                                           | 11/5/13  | RJC     | RW       |

PRESS EXPAND UNTIL IT  
RETAINS WASHER YET STILL  
ALLOWS WASHER TO ROTATE.



**RED BARN MACHINE**

TITLE  
TAIL GEARBOX SEAL EXTRACTOR  
DWG NO. RBE350A93-3307-00 REV 2A

|                                                                                                                             |                  |                                       |
|-----------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------|
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES                                                                      |                  | DRAWN BY: PERRITT                     |
| TOLERANCES ON:                                                                                                              |                  | APPROVED <i>D Wed</i>                 |
| DECIMALS<br>.XXX ± .005                                                                                                     | FRACTIONS ± 1/32 | HEAT TREAT                            |
| XX ± .01                                                                                                                    | ANGLES ± .5°     | FINISH SPEC                           |
| X ± .1                                                                                                                      |                  |                                       |
| UNLESS OTHERWISE SPECIFIED<br>1. BREAK ALL SHARP EDGES<br>.015 x 45° PR .015 R<br>2. DIMENSIONAL LIMITS APPLY AFTER PLATING |                  | USED ON MODEL<br>EUROCOPTER AS350/355 |
| SCALE NTS                                                                                                                   | DATE 9/28/09     | SHEET 1 of 4                          |

| ASSY QTY | ASSY QTY | B/O | PART # | UNIT QTY | DESCRIPTION        | MATERIAL | B/O INFORMATION OR SPECIFICATIONS       | Pg. |
|----------|----------|-----|--------|----------|--------------------|----------|-----------------------------------------|-----|
|          |          |     | -01    | 1        | RETRACTOR          | 4140 Q&T | Ø2-1/4 x 2-3/8                          | 2   |
|          |          |     | -03    | 1        | WASHER             | 1018     | Ø1 x 3/8                                | 3   |
|          |          | B/O | -05    | 1        | HEX HEAD CAP SCREW | STEEL    | 1/2-20 UNF x 3 MCMASTER CARR #92620A750 | 4   |
|          | ASSY #   |     |        |          |                    |          |                                         |     |

1870  
Jan 1st  
to Jan 31st  
1871







DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Step #: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | QTY Effective : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QS1042) Approval                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Completed By                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Lead hand / Supervisor Approval Verification                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QC / QA Coordinator Approval                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Mislabeled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                   |